

We claim:

- 1 1. A method for generating electricity, comprising:
2 converting wave motion into mechanical power;
3 driving a fluid matter as a function of the mechanical power to a reservoir;
4 flowing the fluid matter from the reservoir; and
5 converting at least a portion of a kinetic energy of the flowing fluid matter into
6 electrical energy.

- 1 2. The method according to claim 1, wherein said converting wave motion into
2 mechanical power includes moving a member in a first direction and a second direction in
3 response to the wave motion moving the member in the first and second directions, respectively.

- 1 3. The method according to claim 2, wherein said driving the fluid matter further
2 includes:
3 intaking the fluid matter in response to the wave motion moving the member in
4 the first direction; and
5 exhausting the fluid matter in response to the wave motion moving the member in
6 the second direction.

- 1 4. The method according to claim 1, wherein said driving the fluid matter includes
2 forcing fluid matter to an increased elevation to the reservoir.

1 5. The method according to claim 1, further comprising storing the fluid matter in
2 the reservoir.

1 6. The method according to claim 1, further comprising increasing pressure of the
2 fluid matter in the reservoir.

1 7. The method according to claim 1, wherein said flowing the fluid matter includes
2 gravitating the fluid matter for converting the kinetic energy of the flowing fluid matter into
3 electrical energy.

1 8. The method according to claim 1, wherein said flowing includes utilizing pressure
2 to flow the fluid matter for said converting the kinetic energy of the flowing fluid matter into
3 electrical energy.

1 9. The method according to claim 1, wherein said converting the flowing fluid
2 matter includes driving a turbine utilizing the flowing fluid matter.

1 10. The method according to claim 1, further comprising applying the electrical
2 energy onto a power grid.

- 1 11. A system for generating electricity, comprising:
2 a pump located in a body of water and operable to convert wave motion from the
3 body of water into mechanical energy, said pump including an input port and an output port;
4 an outlet line coupled to the output port of said pump;
5 a reservoir including an input feed port coupled to said outlet line, said pump
6 further operable to intake a fluid matter from the input port and drive the fluid matter through
7 said outlet line to said reservoir via the input feed port, said reservoir further including an output
8 feed port to flow the fluid matter from said reservoir; and
9 a turbine operable to receive the flowing fluid matter from the output feed port of
10 said reservoir and convert at least a portion of a kinetic energy of the flowing fluid matter into
11 electrical energy.
- 1 12. The system according to claim 11, wherein said pump is portable.
- 1 13. The system according to claim 11, wherein said reservoir is located on land.
- 1 14. The system according to claim 13, wherein the land is on top of a cliff.
- 1 15. The system according to claim 13, wherein said reservoir is located over the body
2 of water.
- 1 16. The system according to claim 13, wherein said reservoir is located on a boat.
- 1 17. The system according to claim 11, wherein the fluid matter is water.

1 18. The system according to claim 11, wherein said pump is a buoyancy pump.

1 19. The system according to claim 11, wherein said reservoir is configured for a dual
2 purpose.

1 20. The system according to claim 19, wherein the configuration of the reservoir
2 includes a fish hatchery.

1 21. The system according to claim 11, further comprising multiple pumps configured
2 to each receive approximately the same amount of energy from a wave.

1 22. The system according to claim 21, wherein the configuration of the multiple
2 pumps includes a grid for the pumps to be aligned.

1 23. The system according to claim 22, wherein the grid includes a plot for each pump,
2 each pump having an empty plot between each other pump.

1 24. The system according to claim 23, wherein the pumps are positionally offset by a
2 row along consecutive columns.

1 25. The system according to claim 21, wherein the configuration of the pumps forms
2 a pump field, a shoreline located perpendicular to the direction of travel of the wave receiving
3 substantially the same sized wave as if the pump field did not exist.

1 26. The system according to claim 11, wherein said pump includes at least one
2 adjustable element operable to be altered based on the wave motion.

1 27. The system according to claim 11, wherein said pump is composed of a plurality
2 of pilings aligned by at least one buoyancy chamber ring.

1 28. A system for generating electricity, comprising:
2 means for converting wave motion into mechanical power;
3 means for driving a fluid matter as a function of the mechanical power to a
4 reservoir, said means for driving functioning in conjunction with said means for converting;
5 means for flowing the fluid matter coupled to the reservoir; and
6 means for converting at least a portion of a kinetic energy of the flowing fluid
7 matter into electrical energy, said means for converting operable to receive the flowing fluid
8 matter from said means for flowing.

1 29. The system according to claim 28, further comprising means for increasing
2 pressure of the fluid matter in the reservoir.

1 30. The system according to claim 28, further comprising means for applying the
2 electrical energy onto a power grid.

1 31. A system for designing a buoyancy pump device, said system comprising:
2 a computing system including a processor operable to execute software, the
3 software operable to receive input parameters containing historical wave data from an area of a
4 body of water and calculate at least one dimension of a buoyancy device of the buoyancy pump
5 device as a function of the input parameters, the at least one dimension of the buoyancy device
6 adapted to enable the buoyancy device to create lift pressure for a fluid matter being driven by
7 the buoyancy pump device.

1 32. The system according to claim 31, wherein said computing system includes a
2 storage unit containing the historical wave data.

1 33. The system according to claim 31, wherein said computing system further
2 includes an input/output (I/O) unit in communication with the processor and a network, the I/O
3 unit operable to communicate with and access a wave data server storing the historical wave
4 data.

1 34. The system according to claim 31, wherein the historical wave data includes
2 average wave data over at least one duration of time.

1 35. The system according to claim 31, wherein the fluid matter is a liquid.

1 36. The system according to claim 31, wherein the fluid matter is a gas.

1 37. The system according to claim 31, wherein the at least one dimension includes a
2 diameter of a buoyancy block.

1 38. The system according to claim 31, wherein the at least one dimension includes a
2 dimension for a piston.

1 39. The system according to claim 31, wherein the software includes a spreadsheet.

1 40. The system according to claim 31, wherein the software includes lines of code.

1 41. The system according to claim 31, wherein the software is operable to receive the
2 input parameters automatically.

1 42. A system for generating electricity from a turbine as a function of wave energy
2 from a body of water, said system comprising:

3 a plurality of buoyancy pump devices configured in the body of water at spacings
4 (i) to enable a wave to substantially re-form after passing at least one first buoyancy pump device
5 and (ii) to drive at least one second buoyancy pump device, said buoyancy pump devices
6 operable to displace a fluid matter to drive the turbine.

1 43. The system according to claim 42, wherein said buoyancy pumps are configured
2 in a grid arrangement of plots formed of rows and columns.

1 44. The system according to claim 43, wherein each buoyancy pump is separated by
2 at least one plot along at least one of a row and column.

1 45. The system according to claim 41, further comprising a reservoir for receiving the
2 displaced fluid matter and flowing the fluid matter to drive the turbine.

1 46. The system according to claim 41, further comprising power lines coupled to the
2 turbine for distributing electricity generated by the turbine in response to the turbine being driven
3 by the fluid matter.

1 47. The system according to claim 41, wherein said buoyancy pump devices include
2 at least one component configured to be altered during operation to alter operation of the
3 buoyancy pump devices based on wave parameters.

1 48. The system according to claim 47, wherein the at least one component is
2 configured to be automatically altered.

1 49. The system according to claim 41, wherein the number of said buoyancy pump
2 devices is based on an amount of power to be produced based on energy demands.

1 50. The system according to claim 49, wherein the number is scalable based on
2 energy demands.